

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Currently amended) A method for modifying a porous film mainly having Si-O bonds to obtain a modified porous film having a relative permittivity of 2.6 or less, the method comprising:

conducting a thermal treatment at a temperature from 100 °C to 600 °C to the porous film without using a metal catalyst, wherein in the thermal treatment, an outer surface of the porous film and an inside surface of a pore of the porous film are brought into contact with an organic silicon compound including one or more Si-O-Si bond unit and two or more Si-A bond units (wherein A represents H, OH, $\text{OC}_6\text{H}_{2e+1}$ or a halogen atom and may be the same or different within a single molecule; and e is an integer between 1 and 6), the organic silicon compound is a cyclic siloxane and the molecular weight of the cyclic siloxane is not more than 900, and wherein the contacting is carried out in a gas phase.

2. (Canceled)

3. (Previously presented) The method for modifying a porous film according to claim 1, wherein the porous film before the treatment is a film having mesopores.

4. (Previously presented) The method for modifying a porous film according to claim 1, wherein an average pore diameter of the porous film before the treatment is in a range of 0.5 to 10 nm.

5. (Canceled)

6. (Previously presented) A modified porous film obtained by the method as described in claim 1.

7. (Original) A semiconductor material comprising the modified porous film as described in claim 6.

8. (Original) A semiconductor device in which the semiconductor material as described in claim 7 is used.

9-14. (Canceled)

15. (Previously presented) A modified porous film obtained by the method as described in claim 3.

16. (Previously presented) A modified porous film obtained by the method as described in claim 4.

17. (Canceled)

18. (Previously presented) A semiconductor material comprising the modified porous film as described in claim 15.

19. (Canceled)

20. (Previously presented) A semiconductor device in which the semiconductor material as described in claim 18 is used.

21. (Canceled)

22. (Currently amended) A method for modifying a porous film mainly having Si-O bonds to obtain a modified porous film, the method comprising: The method for modifying a porous film according to claim 1, further comprising

adding water to the porous film; and

conducting a thermal treatment at a temperature from 100 °C to 600 °C to the porous film without using a metal catalyst, wherein in the thermal treatment, an outer surface of the porous film and an inside surface of a pore of the porous film are brought into contact with an organic silicon compound including one or more Si-O-Si bond unit and two or more Si-A bond units (wherein A represents H, OH, $\text{OC}_e\text{H}_{2e+1}$ or a halogen atom and may be the same or different within a single molecule; and e is an integer between 1 and 6), the organic silicon compound is a cyclic siloxane and the molecular weight of the cyclic siloxane is not more than 900, and wherein the contacting is carried out in a gas phase.

23. (Previously presented) The method for modifying a porous film according to claim 22, wherein the water is added before contacting the outer surface of the porous film and an inside surface of a pore of the porous film with the organic silicon compound.

24. (New) A method for modifying a porous film mainly having Si-O bonds to obtain a modified porous film, the method comprising:

conducting a thermal treatment at a temperature from 100 °C to 600 °C to the porous film without using a metal catalyst, wherein in the thermal treatment, an outer surface of the porous film and an inside surface of a pore of the porous film are brought into contact with an organic silicon compound including one or more Si-O-Si bond unit and two or more Si-A bond units (wherein A represents H, OH, $\text{OC}_e\text{H}_{2e+1}$ or a halogen atom and may be the same or different within a single molecule; and e is an integer between 1 and 6), the organic silicon compound is a cyclic siloxane and the molecular weight of the cyclic siloxane is not more than 900, and wherein the contacting is carried out in a gas phase comprising air.